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ABSTRACT

The most difficult task of educational researchers is the transmission of relevant research findings to the classroom. There are two modes of transmission available to researchers: inservice to practicing teachers, and inclusion of relevant research in preservice teacher education. A study was conducted to involve beginning student teachers in one of the most pervasive research projects of teacher effectiveness in the past several years: the Beginning Teacher Evaluation Study (BTES). The BTES is a research program concerning teaching effectiveness in the elementary school. The purpose of the study was to identify teaching activities and classroom processes that enhanced student learning. The results of the study were integrated into the Academic Learning Time (ALT) model of classroom instruction. ALT is a measure based on observable student behavior and is defined as the amount of time a student is engaged in an academic task. BTES showed positive correlations between ALT and student achievement. Project results indicate that current research on teaching effectiveness can and should be successfully integrated into preservice teacher education. (JN)

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The Training of Teachers Using Observation of BTES Variables

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Introduction*

One of the most important (but difficult) tasks of educational researchers is the transmission of relevant research findings to the classroom. Transmission is meant to include both awareness and implementation of variables shown to be related to teaching effectiveness. There are at least two modes of transmission available to researchers: inservice to practicing teachers and inclusion of relevant research in preservice teacher education. It would appear that positive outcomes would accrue from addressing implications and implementation of research findings during the preservice experience. Naturally, most teacher education programs strive to reach the goal of transmission of the most current material concerning teacher effectiveness. However, intentions and "doing" are sometimes unrelated.

Beginning teacher candidates generally bring to a preservice program openness to learn how to teach. Although far from having "tabula rasa" approach to teaching, the beginning candidate does have a willingness to practice those ideas that may lead to their effectiveness in the classroom. The purpose of this study was to involve beginning student teachers in one of the most pervasive studies of teachers' effectiveness in the past several years: the Beginning Teacher Evaluation Study (BTES) (Fisher, 1978).

The BTES was a research program concerning teaching effectiveness in the elementary school. The project was conducted between 1974 and 1978 involving more than 100 schools, 300 teachers and 8000 children (Schneider, 1979). The purpose of the study was to identify teaching activities and classroom processes that enhanced student learning. The study's results and other research on teacher effectiveness were integrated in the Academic Learning Time (ALT) model

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of classroom instruction. ALT is a measure based on observable student behavior. It is defined as the amount of time a student is engaged in an academic task that the student can perform with a high degree of success. The BTES showed positive correlations between ALT and student achievement. Research using ALT can be found in Fisher, et al, 1979; Powell, 1979; and Rosenshine and Berliner, 1978.

The BTES also described teaching behaviors in terms of five, interrelated activities: diagnosis, prescription, presentation, monitoring and feedback. These processes were shown to be necessary so that ALT could be maximized.

Procedure

Initial seminars were held to transmit information concerning the BTES purpose, central constructs, general framework and findings to the student teachers. The sessions were designed to integrate such information with their current classroom experiences. Time to become familiar with the variables involved followed these initial sessions. During that time, the master teacher and university supervisor discussed the materials and activities necessary to appropriately implement BTES findings, as well as initiate the methodology necessary to further study outcomes of that implementation. Materials were developed specifically for use with student teacher candidates. These included a three page summary of the BTES, several worksheets covering engagement rate, success rate, teaching behaviors, etc. and an observation instrument with instructions. Student teachers were then given the opportunity to use the materials and activities in classroom settings.

The classroom observation procedure was a variation of the BTES process. A simple form was developed so that the student teachers could observe six different students during ten time periods of the class. The form also allowed

the coding of the teachers' behavior during those time periods. The following codes were used for observing students:

A = Attending (Academically Engaged)

Student is attending to/is involved in the substance of the instructional task or the directions for that task. Requires interaction with content in some way. Student behavior can be overt or covert. Overt includes written, oral, or other motoric responses. Covert includes listening to an explanation, reading silently, or thinking.

I = Interim

The student is involved in a non-content-substantive activity that is supportive of the instructional task. Interim activities include handing in or passing out papers or books; getting pencils or erasers (if allowed during lesson); waiting for help, further directions, or for work to be checked, waiting for the teacher or other students to complete an organizational activity so that group instruction can continue (teacher writing problems on the board or students regrouping for a small group activity). It includes waiting due to pacing - student is waiting for the teacher to read the next problem or for another student to finish a problem so that the group can continue.

O = Off-task

Student is not paying attention to the work at hand or is engaging inappropriate behavior. This includes socializing, daydreaming, fighting, playing, wandering around the room, etc. If a student is in interim and distracts a student who is still working, code off-task. If a student is being "reprimanded" for inappropriate behavior at the moment of sampling code off-task. If a student finishes early and is supposed to get a book to read or start another activity and does not, code off-task.

X = Non-academic activity or out of room

If the student leaves the room during the observation period (pull out program, bathroom pass, etc.) code X. If during an academic period the student is involved in a non-academic task, such as drawing a picture to illustrate a sentence, code X. This use of the X code enables the observer to calculate allocated content time more accurately.

For Observing Teachers:

D = Diagnosis

The instructor finds out about the knowledge and skill levels, interests, learning styles, strengths and weaknesses of individual students in the class.

P = Prescription

The instructor decides what to do in the classroom, including appropriate instructional goals and activities for students, grouping, scheduling, etc.

PT = Presentation

The instructor provides information to the student(s), either explaining concepts or telling students what to do.

M = Monitoring

The instructor finds out how students are doing on classroom tasks, either by watching, checking work, or asking questions.

F = Feedback

The instructor gives students feedback on how they are doing, including feedback on the correctness of their answers and feedback on their behavior.

During each of the ten time periods, the student teachers were to observe six students selected at random at the beginning of the class. For example, during time period one, took a mental picture of that students' activity, then placed the appropriate observation code on the sheet. The same process was continued

until each student had been observed. The observer then coded the teachers activity. All six students and the teacher took less than one minute to code.

After coding the ten time periods, the results were summarized for the class. The total number of attending behaviors was divided by the sum of the interim behaviors, off task behaviors and attending behaviors to get the percent of academically engaged time. The teacher activity was also summarized.

Results

Over 40 different classroom were observed by approximately 20 student teachers. The coded observation sheets as well as discussions with the student teachers revealed that they were able to see BTES variables in classroom operation. Followup discussions offered evidence that the student teachers were aware of the implications of their observations.

Data gathered by the student teachers seemed to support the adage that teachers at the high school teach courses rather than students. While many teachers were able to keep students on task for long periods of time, the student teachers were often amazed that many teachers continued to present material in spite of off task students. The instructional processes of diagnosis and prescription were almost non-existent in the observed sample. The following are examples of some of the observations:

Class	Observation
Ceramics	Students were attending about 60% of the time. While students all had projects to do, many just talked with their project in front of them.
Welding	Students were attending about 62% of the time. The teacher spent a considerable amount of time discussing discipline.

Class	Observation
Biology	A 44% attending rate was observed. The teacher lectured a great deal, then left 15 to 20 minutes at the end of class to do the next day's assignment.
English	A 87% attending rate was observed. The teacher seemed to have multiple assignments available.
Woodshop	A 95% attending rate was observed. The teacher had excellent organization. Each table had a foreman while the teacher circulated among the tables.
Music	The students attended 54% of the time. The first part of the class, the teacher had all students' attention. When the class broke into groups, attending dropped off.

The results of this project indicated that current research in teaching effectiveness can be successfully integrated into the preservice experience. Having the student teachers and master teachers involved in an extension of research narrowed the credibility gap between research and the classroom. It is important that teacher education programs get current research immediately into the mainstream of education and continue such a process by making the preservice program amenable to further transmission of relevant findings.

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